

Remarks

The Official Action rejected claims 22 and 24-42. Claims 22 and 24-42 remain pending in the present application. Applicant respectfully requests allowance of the pending claims in light of the following.

Response to the 35 U.S.C. §112, Second Paragraph, Rejection

The Office Action rejects claim 24, 26, and 31-33 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

With regard to the rejection of claim 24, the first switched capacitor transformer and the second switched capacitor transformer are not limited to, but may refer to SC1 and SC2 of Fig. 6. The switched capacitor transformer SC1 and SC2 of Fig. 6 have same structure (see page 2, paragraph [0021]).

Fig. 4 discloses the circuit level details of the switched capacitor transformer 308 and thus SC1 and SC2. Each of the first and the second switched capacitor transformers SC1 and SC2 may comprise a first switch 406, a second switch 408, a third switch 410, a fourth switch 412, a first capacitor 414, a second capacitor 402, and a third capacitor 404.

Thus, the third and fourth switches of the SC1 may refer to the switches 410 and 412 of Fig. 4. The first and second switches of the second switched capacitor transformer SC2 refer to switches 406 and 408 of Fig. 4. With the above description, Applicants believe that the reference to the elements third and fourth switches of the first

capacitor and the first and second switches of the second capacitor are clearly defined and supported in the specification. Accordingly, Applicants respectfully request the rejection of claim 24 be withdrawn.

With regard to the rejection of claim 26, the second capacitor of the first switched capacitor may refer to, but is not limited to the capacitor 402 of SC1. The first and the second terminal of the capacitor 402 refer to the terminals coupled to the first input port 416 and the second input port 418. The third capacitor of the first switched capacitor refers to the capacitor 404 of SC1. The first and the second terminal of the capacitor 404 refer to the terminals coupled to the first output port 420 and the second output port 422. With the above description, Applicants believe that the reference to the elements second and third capacitor and the terminals of the second and third capacitor are clearly defined and supported in the specification. Accordingly, Applicants respectfully request the rejection of claim 26 be withdrawn.

With regard to claims 31, 32, and 33, the functional unit to which the reference voltage is provided may be, but is not limited to a sub-block such as an amplifier, a phase locked loop, and a voltage regulator. As disclosed, in paragraph [0002] of page 1, integrated circuits often comprise analog functional unit blocks that require some reference voltages. The integrated circuit or the die 102 of Fig. 1 may comprise a micro-processor and other sub-blocks or functional units such as the phase locked loop 116, the voltage regulator 118, and the amplifier. Therefore, Applicants believe that the reference to the functional unit refers to an amplifier, phase-locked loop, and the voltage

regulator and are clearly defined and supported in the specification. Accordingly, Applicants respectfully request the rejection of claim 31, 32, and 33 be withdrawn.

Claim Rejections – 35 USC § 102

The Official Action rejected claims 22, 24, 27-30, and 34-42 under 35 USC 102(b) as being anticipated by Oakeson et al. (U.S. Patent 6, 456,123). Applicant respectfully requests the rejection of claims 22, 24, 27-30, and 34-42 be withdrawn in light of the following reasons.

As is well-established, in order to successfully assert a *prima facie* case of anticipation, the Official Action must provide a single prior art document that includes every element and limitation of the claim or claims being rejected. Therefore, if even one element or limitation is missing from the cited document, the Official Action has not succeeded in making a *prima facie* case.

Claim 22

Claim 22 requires an apparatus comprising a first switched capacitor transformer comprising a first capacitor and a first plurality of switches that couple the first capacitor to a voltage reference in a first period and that couple the first capacitor to the functional unit in order to deliver the reference voltage to the functional unit during a second time period. The Official Action appears to rely on circuit of Fig. 2 of Oakeson to teach limitations of claim 22.

The circuit of Fig. 2 of Oakeson discloses (in col. 3, lines 40-47) a translation circuit 10 comprising a trim capacitor C3 to compensate for the parasitic capacitance

that tend to add charge to the sample and hold capacitor C1. The parasitic capacitance (as disclosed in col. 3, lines 21-23) between the output line 14 and ground is modeled as capacitor C4 of Fig. 2. Oakeson (as disclosed in col. 3, lines 40-47) discloses a trim capacitor C3, sized to compensate for parasitic capacitance C4, to redistribute the same amount of charges as redistributed by the parasitic capacitance C4. However, Oakeson does not appear to disclose an apparatus to transfer a voltage level of the voltage reference unit to the functional unit using a switched capacitor transformer, which may isolate the voltage reference unit and the functional unit.

In contrast to the claimed invention, Oakeson, merely, appears to teach a trim capacitor C3 used to compensate for the undesirable voltage levels that may be added by the parasitic capacitance C4 to the sample and hold capacitor C1. Oakeson appears to compensate (as noted in col. 1, lines 44-49) for the parasitic capacitance C4 that tend to add charge to the sample and hold capacitor C1 by having a compensation circuit comprising a trim capacitor C3. The trim capacitor C3 may, ideally, remove the same amount of charge from the sample and hold capacitor C1 that is added by the parasitic capacitor C4. Accordingly, circuit disclosed in Fig. 2 of Oakeson does not appear to disclose an apparatus covered by the scope of claim 22 of the instant application. Therefore, Applicant respectfully requests that the rejection of claim 22 be withdrawn.

Claims 24 and 27-29

Claims 24 and 27-29 depend from claim 22. Accordingly, claims 24 and 27-29 is allowable for at least the reasons given above. Applicant respectfully requests that the rejection of claims 24 and 27-29 be withdrawn.

Claim 30

Claim 30 requires an integrated circuit comprising a plurality of switched capacitors, each switched capacitor to receive the reference voltage from the voltage reference circuit during a first time duration of a clock and to deliver the reference voltage to at least one functional unit of the plurality of functional units during a second time duration of the clock. The Official Action appears to rely on circuit of Fig. 2 of Oakeson to teach limitations of claim 30.

As described above, the circuit of Fig. 2 of Oakeson discloses (in col. 3, lines 40-47) a translation circuit 10 comprising a trim capacitor C3 to compensate for the parasitic capacitance that tend to add charge to the sample and hold capacitor C1. The parasitic capacitance (as disclosed in col. 3, lines 21-23) between the output line 14 and ground is modeled as capacitor C4 of Fig. 2. Oakeson, merely, teaches (in col. 3, lines 40-47) a trim capacitor C3 used to compensate for the undesirable voltage levels that may be added by the parasitic capacitance C4 to the sample and hold capacitor C1. The trim capacitor C3 is sized to compensate for parasitic capacitance C4 to redistribute the same amount of charges as redistributed by the parasitic capacitance C4.

Oakeson does not appear to disclose an integrated circuit comprising a switched capacitor to transfer a voltage level of the voltage reference unit to the functional unit by isolating the voltage reference unit and the functional unit. Accordingly, circuit disclosed in Fig. 2 of Oakeson does not appear to disclose an apparatus covered by the scope of claim 30 of the instant application. Therefore, Applicant respectfully requests that the rejection of claim 30 be withdrawn.

Claims 34-36

Claims 34-36 depend from claim 30. Accordingly, claims 34-36 is allowable for at least the reasons given above. Applicant respectfully requests that the rejection of claims 34-36 be withdrawn.

Claim 37

Claim 37 requires a method comprising coupling a reference voltage to a first capacitor and decoupling a functional unit from the first capacitor to develop the reference voltage across the first capacitor during a first period of a clock, and decoupling the reference voltage from a second capacitor and coupling a functional unit to the second capacitor to provide the functional unit with the reference voltage during the first period of the clock. The Official Action appears to rely on circuit of Fig. 2 of Oakeson to teach limitations of claim 37.

As described above, the circuit of Fig. 2 of Oakeson discloses (in col. 3, lines 40-47) trimming the capacitance of a trim capacitor C3 to compensate for the parasitic capacitance that tend to add charge to the sample and hold capacitor C1. Oakeson does not appear to disclose a method covered by the scope of claim 37 of the instant application.

In contrast, Oakeson appears to teach (in col.1, lines 30-33) a translation circuit 10 that is configured to sample and hold a differential voltage signal, and then translate the differential voltage signal sample into a ground-referenced signal. Oakeson appears to compensate (as noted in col. 1, lines 44-49) for the parasitic capacitance that tend to add charge to the sample and hold capacitor by having a compensation circuit, which removes, ideally, the same amount of charge from the sample and hold capacitor. Applicant respectfully requests that the rejection of claim 37 be withdrawn.

Claims 38-42

Claims 38-42 depend from claim 37. Accordingly, claims 38-42 is allowable for at least the reasons given above. Applicant respectfully requests that the rejection of claims 38-42 be withdrawn.

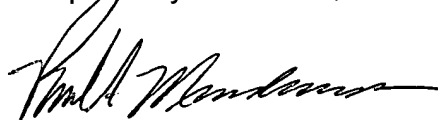
Claim Rejections – 35 USC § 103

The Official Action further rejected claim 25 under 35 USC 103(a) as being unpatentable over Oakeson et al. (U.S. Patent 6, 456,123). Claim 25 depends from allowable claim 22. Accordingly, claim 25 is allowable for at least the reasons stated above in regard to claim 22. Applicant respectfully requests that the rejection of claim 25 be withdrawn.

Conclusion

The foregoing is submitted as a full and complete response to the Official Action. Applicant submits that the application is in condition for allowance. Reconsideration is requested, and allowance of the pending claims is earnestly solicited. Should it be determined that an additional fee is due under 37 CFR §§1.16 or 1.17, or any excess fee has been received, please charge that fee or credit the amount of overcharge to deposit account #02-2666. If the Examiner believes that there are any informalities, which can be corrected by an Examiner's amendment, a telephone call to the undersigned at (503)439-8778 is respectfully solicited.

Respectfully submitted,



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